



Australian Bureau of Statistics

6302.0 - Average Weekly Earnings, Australia, May 2016

Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 18/08/2016

Summary

Main Features

MAY KEY FIGURES

The following table contains the key Average Weekly Earnings figures for the May 2016 reference period.

The Australian Bureau of Statistics' Average Weekly Earnings survey is designed to measure the level of average earnings in Australia at a point in time. Movements in average weekly earnings can be affected by changes in both the level of earnings per employee and in the composition of the labour force. Factors which can contribute to compositional change include variations in the proportion of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; and variations in the distribution of employment between industries.

Table 1: Average Weekly Earnings, Key Figures, Australia, May 2016

	May 2016 \$	May 2015 to May 2016 % change
Trend(a)		
Full-time adult average weekly ordinary time earnings	1 516.00	2.1
Full-time adult average weekly total earnings	1 575.40	1.9
All employees average weekly total earnings	1 160.20	2.1
Original		
Full-time adult average weekly ordinary time earnings	1 516.00	2.2
Full-time adult average weekly total earnings	1 573.30	2.1
All employees average weekly total earnings	1 160.90	2.1

(a) For further information regarding Trend estimates, please refer to paragraphs 62 to 68 of Explanatory Notes.

TREND ESTIMATES

In the twelve months to May 2016, Full-Time Adult Average Weekly Ordinary Time Earnings increased by 2.1% to \$1,516.00.

The Full-Time Adult Average Weekly Total Earnings in May 2016 was \$1,575.40, a rise of 1.9% from the same time last year.

To access the time series spreadsheets related to the measures presented above, please refer to the to the downloads tab at the top of the page.

FORTHCOMING ISSUES

ISSUE

November 2016
May 2017

Release Date

23 February 2017
17 August 2017

RECENT FEATURE ARTICLES

- A Guide to Understanding Average Weekly Earnings Statistics. The article outlines the purpose of the Average Weekly Earnings collection and use of the data. The article also explains the relative strengths and limitations of AWE to ensure appropriate interpretation of the statistics.
- Average Weekly Earnings and Wage Price Index - What do they measure? The article outlines the purpose and key uses of Average Weekly Earnings and Wage Price Index collections, and explains how the two surveys can respond differently to economic events using hypothetical examples.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

Australia**AUSTRALIA**

Table 2 below presents the trend estimates of the key Average Weekly Earnings, Australia series. Trend estimates are obtained by removing calendar related effects and irregular components from the data. They are considered a reliable guide to the underlying direction of the series.

Full-Time Adult Average Weekly Ordinary Time Earnings between May 2015 and May 2016 increased by 2.1% to \$1,516.00.

Table 2: Average Weekly Earnings, Australia, Trend^(a), May 2016

	May 2016 \$	May 2015 to May 2016 % change
Males		
Full-time adult average weekly ordinary time earnings	1 613.60	1.3
Full-time adult average weekly total earnings	1 696.60	1.0
All employees average weekly total earnings	1 393.50	1.7
Females		
Full-time adult average weekly ordinary time earnings	1 352.50	3.4
Full-time adult average weekly total earnings	1 370.10	3.3
All employees average weekly total earnings	925.10	2.1
Persons		
Full-time adult average weekly ordinary time earnings	1 516.00	2.1
Full-time adult average weekly total earnings	1 575.40	1.9
All employees average weekly total earnings	1 160.20	2.1

(a) For further information regarding Trend estimates, please refer to paragraphs 62 to 68 of the Explanatory Notes.

Original series data presented below has not been adjusted to remove the effects of either seasonal or irregular influences. Compared with May 2015, Full-Time Adult Average Weekly Ordinary Time Earnings increased by 2.2% to \$1,516.00, in original terms.

Table 3: Average Weekly Earnings, Australia, Original, May 2016

	May 2016 \$	May 2015 to May 2016 % change
Males		
Full-time adult average weekly ordinary time earnings	1 613.50	1.4
Full-time adult average weekly total earnings	1 694.50	1.2
All employees average weekly total earnings	1 395.10	1.9
Females		
Full-time adult average weekly ordinary time earnings	1 352.10	3.4
Full-time adult average weekly total earnings	1 369.60	3.3
All employees average weekly total earnings	925.80	2.0
Persons		
Full-time adult average weekly ordinary time earnings	1 516.00	2.2
Full-time adult average weekly total earnings	1 573.30	2.1
All employees average weekly total earnings	1 160.90	2.1

It is important to note that while Average Weekly Earnings data can be used to compare, at the very broad level, average earnings between males and females, such comparisons do not take into account a range of compositional differences. For example, differences in occupation or hours worked which contribute significantly to the differences observed between male and female earnings. Details of occupation and hours worked are not collected in the Average Weekly Earnings survey. For further comparisons between male and female wages, including hourly rates and by occupation, refer to Employee Earnings and Hours (cat. no. 6306.0).

For further earnings information related to industry, including a breakdown by sex, please refer to the time series spreadsheets in the downloads tab at the top of the page.

Private and Public Sector Earnings

PRIVATE AND PUBLIC SECTOR EARNINGS

In May 2016, the Full-Time Adult Average Weekly Ordinary Time Earnings was \$1,640.70 in the Public sector. Private sector Full-Time Adult Average Weekly Ordinary Time Earnings was \$1,483.30.

Table 4: Average Weekly Earnings, By Sector, Original, May 2016

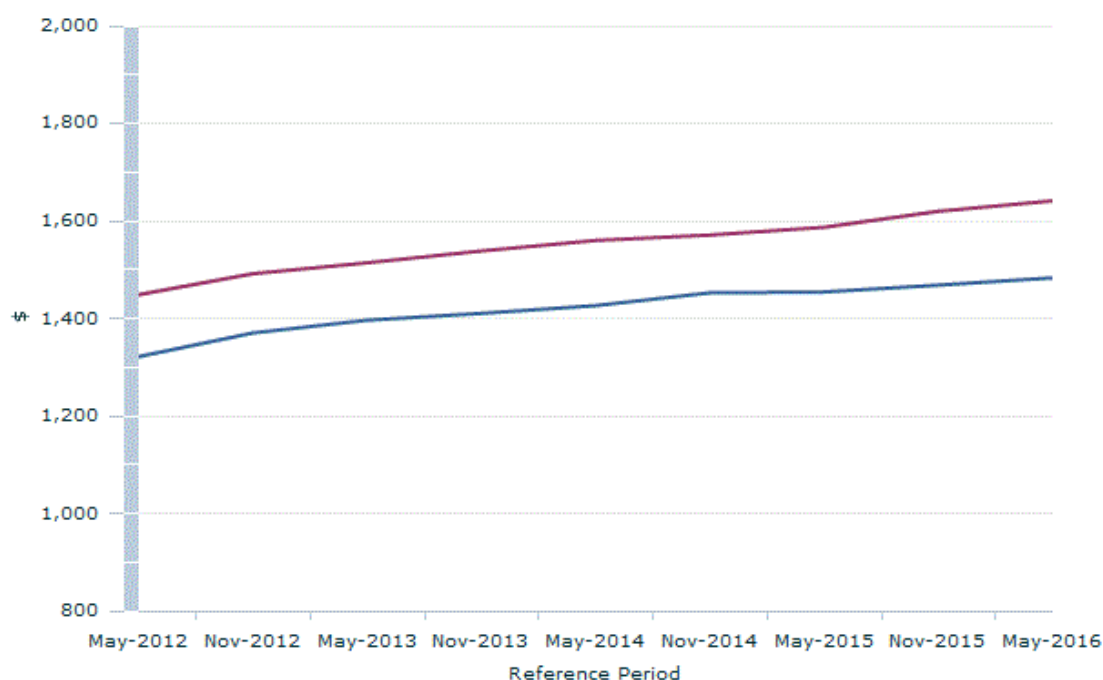
	May 2016 \$	May 2015 to May 2016 % change
Australia		
Full-time adult average weekly ordinary time earnings	1 516.00	2.2
Full-time adult average weekly total earnings	1 573.30	2.1

All employees average weekly total earnings	1 160.90	2.1
Private Sector		
Full-time adult average weekly ordinary time earnings	1 483.30	2.0
Full-time adult average weekly total earnings	1 542.40	1.8
All employees average weekly total earnings	1 114.90	2.1
Public Sector		
Full-time adult average weekly ordinary time earnings	1 640.70	3.4
Full-time adult average weekly total earnings	1 691.20	3.3
All employees average weekly total earnings	1 356.60	2.5

Looking at Full-Time Adult Average Weekly Ordinary Time Earnings for May 2016 in more detail:

- the Full-Time Adult Male Average Weekly Ordinary Time Earnings were \$1,749.00 in the Public sector, and \$1,587.60 in the Private sector; and
- the Full-Time Adult Female Average Weekly Ordinary Time Earnings in May 2016 were \$1,538.70 in the Public sector, and \$1,277.10 in the Private sector.

Average Weekly Ordinary Time Earnings, Full Time Adults by Sector, Original



■ Private ■ Public

Select a different graph

Persons ▼

Save Chart Image

Australian Bureau of Statistics

© Commonwealth of Australia 2016.

Source(s): Average Weekly Earnings, Australia

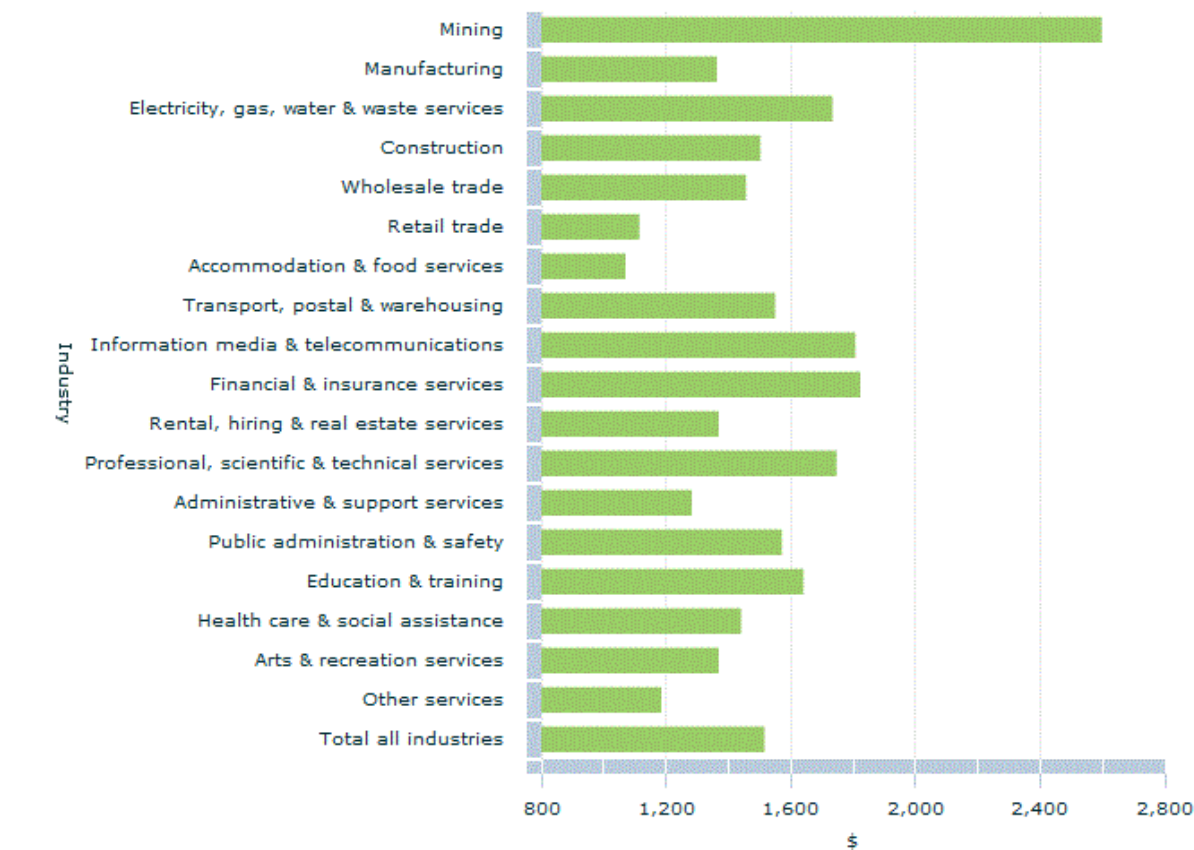
For further earnings information related to sector, including a breakdown by sex, and estimates in Trend and Seasonally Adjusted terms, please refer to the time series spreadsheets in the downloads tab at the top of the page.

Industry Earnings

INDUSTRY EARNINGS

In May 2016, those employed in the Mining industry had the highest Full-Time Adult Average Weekly Ordinary Time Earnings in Australia at \$2,597.30. The industry with the lowest level of Full-Time Adult Average Weekly Ordinary Time Earnings was the Accommodation and food services industry (\$1,069.80).

Average Weekly Ordinary Time Earnings, Full Time Adults by Industry, Original, May 2016



Persons

Select a different graph

Persons

Save Chart Image

Australian Bureau of Statistics
© Commonwealth of Australia 2016.

Source(s): Average Weekly Earnings, Australia

For further earnings information related to industry, including a breakdown by sex, please refer to the time series spreadsheets in the downloads tab at the top of the page.

State and Territory Earnings

STATE AND TERRITORY EARNINGS

In May 2016, Full-Time Adult Average Weekly Ordinary Time Earnings was highest for the Australian Capital Territory and Western Australia, \$1,725.40, and \$1,698.60 respectively.



Source(s): Average Weekly Earnings, Australia

For further earnings information related to States and Territories, including detailed breakdown by sex, please refer to the time series spreadsheets in the downloads tab at the top of the page.

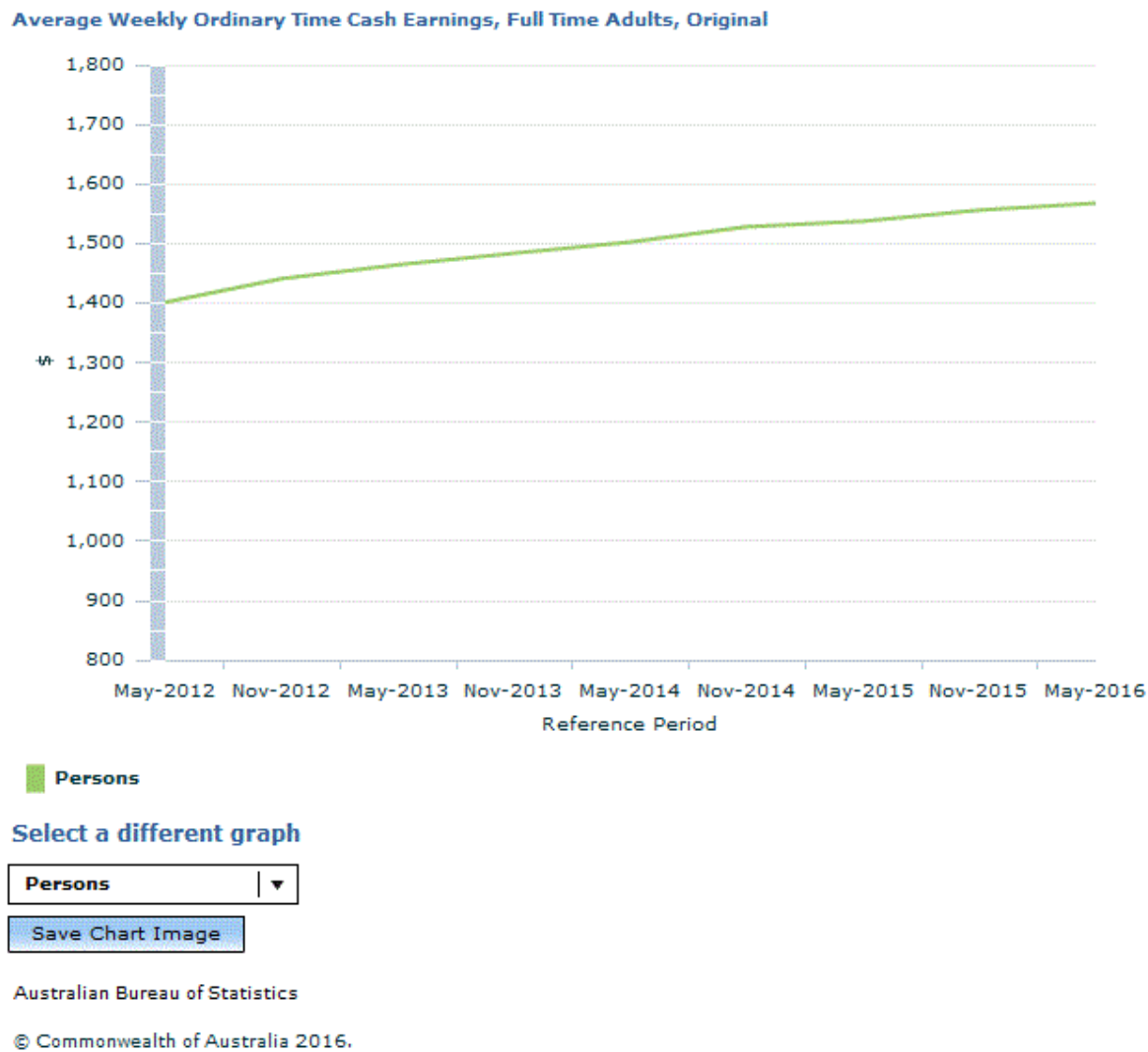
Average Weekly Cash Earnings

AVERAGE WEEKLY CASH EARNINGS

Commentary in the other sections of this e-magazine relates exclusively to estimates of employee earnings which exclude amounts salary sacrificed. This section includes information on Average Weekly Cash Earnings (AWCE), which provides estimates of employee earnings including amounts salary sacrificed.

Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of his or her salary in return for benefits of a similar value. Common types of salary sacrifice arrangements include pre-tax contributions to superannuation funds and novated leases for

motor vehicles.



Source(s): Average Weekly Earnings, Australia

In May 2016, on average, full-time adult employees in Australia salary sacrificed \$52.30 (Full-time adult ordinary time cash earnings \$1,568.30 minus Full-time adult ordinary time earnings \$1,516.00). This is a decrease of \$3.70 from November 2015.

Amounts salary sacrificed by an employee can be affected by a change in his or her earnings (for example, an increase in the level of overtime worked or commissions earned). Additionally, some employees sacrifice more of their salary at the beginning of the financial year and then the amount tapers off towards the end of the year when he or she has reached the concessional contributions cap for salary sacrificing superannuation. For other employees, the amount of salary sacrificed increases towards the end of the financial year to ensure the cap is reached. A feature article examining Salary Sacrifice in Australia included in the November 2012 edition of the Average Weekly Earnings release and can be found in the following link

For further earnings information related to Average Weekly Cash Earnings, please refer to the time series spreadsheets in the downloads tab at the top of the page.

About this Release

Results of the biannual Survey of Average Weekly Earnings containing estimates of average weekly ordinary time earnings and average weekly total earnings for full-time adult employees and average weekly total earnings for all employees. Results are classified by sector, state/territory and industry for males, females and persons, and cross-classified by sector by state/territory for persons.

Explanatory Notes

Explanatory Notes

EXPLANATORY NOTES

INTRODUCTION

1 This publication contains biannual estimates of Average Weekly Earnings (AWE) based on information obtained from a sample survey of employers.

CONCEPTS, SOURCES AND METHODS

2 Descriptions of the underlying concepts of Australia's AWE statistics, and the sources and methods used in compiling these estimates, are presented in Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.001).

REFERENCE PERIOD

3 AWE is produced for the June and December quarters. The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter (i.e. May and November). Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

SCOPE AND COVERAGE

4 All wage and salary earners who received pay for the reference period are represented in the AWE survey, except:

- members of the Australian permanent defence forces;
- employees of enterprises primarily engaged in agriculture, forestry and fishing;
- employees of private households;
- employees of overseas embassies, consulates, etc.;
- employees based outside Australia; and
- employees on workers' compensation who are not paid through the payroll.

5 Also excluded are the following persons who are not regarded as employees for the purposes of this survey:

- casual employees who did not receive pay during the reference period;
- employees on leave without pay who did not receive pay during the reference period;
- employees on strike, or stood down, who did not receive pay during the reference period;
- directors who are not paid a salary;

- proprietors/partners of unincorporated businesses;
- self-employed persons such as subcontractors, owner/drivers, consultants;
- persons paid solely by commission without a retainer; and
- employees paid under the Australian Government's Paid Parental Leave Scheme.

6 The sample for AWE, like most Australian Bureau of Statistics (ABS) business surveys, is selected from the ABS Business Register (ABSBR) which is primarily based on registrations to the Australian Taxation Office's (ATO) Pay As You Go Withholding (PAYGW) scheme. The business register is updated quarterly to take account of:

- new businesses;
- takeovers and mergers;
- changes in industry classification;
- changes in the number of employees;
- businesses which have ceased employing; and
- other general business changes.

7 The estimates include an allowance for the time it takes newly registered businesses to be added to the survey population.

8 Businesses which have ceased employing are identified when the ATO cancels their PAYGW registration. In addition, businesses which have not remitted under the PAYGW scheme for the previous five quarters are removed from the population.

SURVEY DESIGN

9 A sample of approximately 5,700 employer units is selected from the ABS Business Register to ensure adequate state, industry and sector representation. The sample is updated each survey period to reflect the changes described in paragraph 6. These changes arise from the emergence of new businesses, takeovers and mergers, changes to industry classification, changes in the number of employees, and businesses which have ceased operations. Such updating of the business register can contribute to movements in the AWE estimates.

10 A sample redesign of the AWE survey was implemented in August 2009 incorporating the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

11 The statistical unit for the survey comprises all the activities of an employer in a particular state or territory based on the Type of Activity Unit. For further information on the statistical unit see paragraphs 18 to 33. Each statistical unit is classified to an industry which reflects the predominant activity of the business. The statistical units are stratified by state, sector, industry and employment size, and within each stratum, statistical units are selected with equal probability.

INDUSTRY CLASSIFICATION

12 The statistics in this release are classified to industry in accordance with the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0). This replaced the 1993 edition of ANZSIC in the August 2009 issue of this publication, which had been in use since 1994.

13 The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international

classification standards.

SURVEY FREQUENCY

14 Up until May 2012, Average Weekly Earnings was conducted on a quarterly basis. However, the frequency of the AWE survey is now biannual, with the May 2012 edition being the last quarterly issue and the November 2012 edition the first produced on a biannual basis. AWE data is now produced twice a year relating to the May and November reference periods only. Data is collected and released on the same basis as before for the May and November reference periods. For full details on the change in frequency, refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002).

15 As a result of the change in frequency, new seasonally adjusted and trend estimate series are produced (refer to paragraphs 58-68 below).

IMPACT OF STATISTICAL CHANGES IMPLEMENTED IN AUGUST 2009

16 With effect from the August 2009 edition, this publication presents data on the basis of ANZSIC 2006. At this time, the ABS also implemented a sample redesign. The changes resulted in a shift in the level of the series from ANZSIC 1993 to ANZSIC 2006 estimates. The difference in the level of the two series was measured and backcast into the historical series to make a time series of estimates on an ANZSIC 2006 basis. Differences at the state, sector and Australia levels are generally insignificant and within released standard errors for each series.

17 Published industry series have been backcast and data from August 1994 to May 2009 are available on the basis of both editions of ANZSIC on the ABS website. More information about these changes can be found in the Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009 (cat. no. 6302.0.55.002).

ABS ECONOMIC UNITS MODEL

18 The Economic Units Model is used by the ABS to determine the structure of Australian businesses and other organisations. The model consists of:

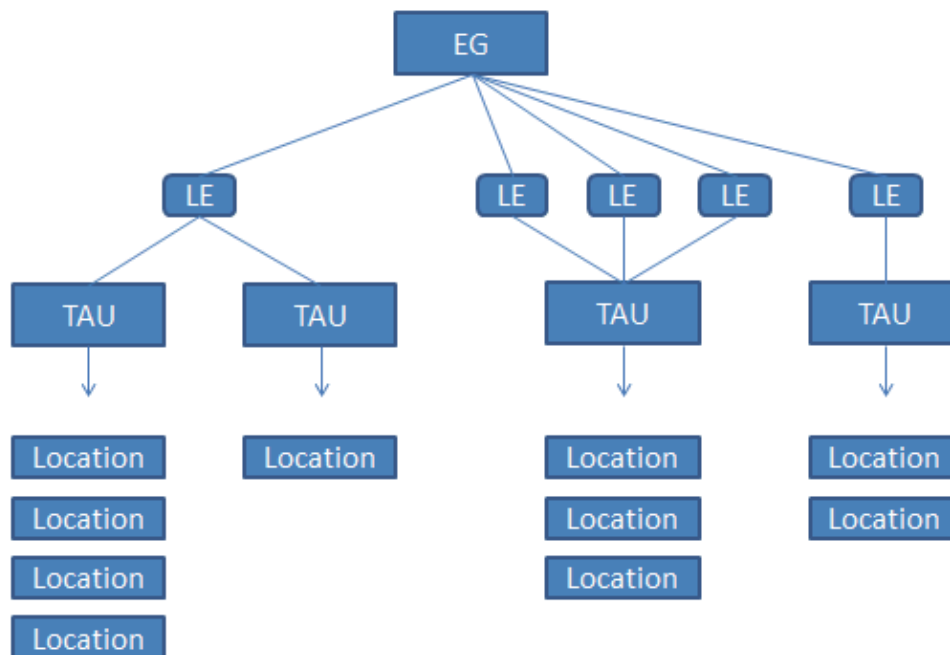
- The Enterprise Group (EG)
- Legal Entities (LEs)
- Type of Activity Units (TAUs)
- Location Units.

19 The EG and LE are institutional units and the TAU and Location are producing units.

20 The LE and the TAU are the main institutional and producing units used by the ABS to produce statistical outputs.

21 Diagram 1 illustrates the nature of the relationships between the different units within the model.

Diagram 1: ABS Economic Units Model*



* The legal entity (LE) statistical unit is generally equivalent to a single Australian Business Number registration

UNIT DEFINITIONS

22 The Legal Entity (LE) is an institutional unit covering all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. Legal entities are institutional units. In most cases the LE is equivalent to a single ABN registration.

23 The Enterprise Group (EG) is an institutional unit that covers all the operations within Australia's economic territory of legal entities under common control. Control is defined in Corporations legislation. Majority ownership is not required for control to be exercised.

24 The Type of Activity Unit (TAU) comprises one or more Legal Entities, sub-entities or branches of a Legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the Australian and New Zealand Standard Industrial Classification (ANZSIC) subdivision level.

25 A Location is producing unit comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

CLASSIFICATION OF UNITS

26 Various classifications are applied to the units in the ABS Economic Units Model. The main classifications applied are:

- ANZSIC
- Type of Legal Organisation (TOLO)

- Type of Business Entity (TOBE)
- Standard Institutional Sector Classification of Australia (SISCA)
- Public / Private classification

27 ANZSIC is used to classify the industry in which the TAU has productive activity. Further information on this classification can be found in Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

28 SISCA provides a framework for dividing the Australian economy into institutional sectors. Further information on this classification can be found in Standard Economic Sector Classifications of Australia (SESCA), 2008 (cat. no. 1218.0).

ABS BUSINESS REGISTER

29 The ABSBR is a list of businesses and organisations operating in Australia and is based on the Australian Business Register (ABR). Organisations are included on the ABR when they register for an Australian Business Number (ABN). The Commonwealth Government requires all government departments and agencies to make use of the ABR to reduce government imposed reporting load, and to use the ABN as the primary reference number for all dealings between government and business. The ABSBR is used to create frames for the various business surveys run by the ABS.

30 It is not practicable for the ABS Economic Units Model to be applied to all ABR registrants and they are therefore organised into two parts: the profiled population, and the non-profiled population.

31 Profiled Population: Businesses and other organisations which are considered sufficiently complex and significant are profiled according to the Economic Units Model. These enterprise groups typically have multiple legal entities, multiple TAUs and are among the largest contributors within industries.

32 Non-Profiled population: Businesses and other organisations with less complex structures. They are regarded as an enterprise group with a single legal entity and a single TAU in accordance with the Economic Units Model. Information for units in the non-profiled population is largely sourced from the ABR.

33 The two populations are mutually exclusive and cover all organisations in Australia which have registered for an ABN.

GENERAL NOTES ON ESTIMATES

34 AWE statistics represent average gross (before tax) earnings of employees and do not relate to average award rates or to the earnings of the 'average person'. AWE estimates are derived by dividing estimates of weekly total earnings by estimates of the number of employees. Changes in the averages may be affected not only by changes in the level of earnings of employees but also by changes in the overall composition of the wage and salary earner segment of the labour force.

35 There are several factors which can contribute to compositional changes, including variations over time in the proportions of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; and variations in the distribution of employment between industries. Such effects may apply differently within different states and territories, and over time.

36 AWE statistics closely follow the International Labour Organisation's concept of 'Statistics of average earnings'. The data is collected in respect of a typical week and, therefore, may not reflect events such as Christmas trading. Further, the data excludes irregular and infrequent payments, such as annual bonuses. For these reasons, caution is advised if using AWE to derive annualised average earnings.

37 Prior to May 2014, surprise outliering was used as the sole methodology to identify and reduce the impact on the estimates of a business whose weighted survey response is an outlier i.e. significantly different to businesses in a group with similar characteristics (based on employment size, sector, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other units in the group are adjusted upwards accordingly.

38 In the May 2014 issue, winsorisation methodology was introduced as the primary method to treat outliers in AWE. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. This improved methodology will provide more stable time series estimates. Surprise outliering continues to be used for a small number of extreme values that may not be sufficiently moderated by the winsorisation method.

39 An analysis of the May 2014 estimates was undertaken to identify the impact on the estimates of the change in methodology. At the Australia level the impact of the change was found to be minimal. However, for some data items in some industries and states there is an impact on the estimates. For further information on outliers, refer to Chapter 17 of Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.011).

40 For further information in understanding Average Weekly Earnings statistics, please refer to the feature article A Guide to Understanding Average Weekly Earnings Statistics, published in the November 2014 AWE release.

AVERAGE WEEKLY CASH EARNINGS

41 The definition of earnings currently used in the AWE survey is, broadly, current and regular payments in cash to employees for work done. Thus, earnings series from the AWE survey historically excluded amounts salary sacrificed, as these had been considered conceptually as payments in kind. However, under the revised conceptual framework for measures of employee remuneration, as presented in Information Paper: Changes to ABS Measures of Employee Remuneration, 2006 (cat. no. 6313.0), amounts salary sacrificed are now considered conceptually to be wages and salaries in cash. Accordingly, the AWE questionnaire was redesigned and, from August 2007, the collection of information on amounts salary sacrificed by employees commenced. However, the AWE series has continued to be published on the old conceptual basis (i.e. exclusive of amounts salary sacrificed) to maintain long term comparability of the time series.

42 Although the AWE survey has conceptually excluded amounts salary sacrificed, in practice, there was evidence that earnings series from the AWE survey had inadvertently included some amounts salary sacrificed. The ABS worked closely with data providers to identify any instances of misreporting, and to amend their reporting practices where necessary.

43 As a result of the separate collection of salary sacrificed amounts from August 2007, and other analyses, the ABS was able to quantify the extent of mis-reporting that had occurred, and to estimate the impact of this mis-reporting on the historical series. Consequently, AWE data series for August 1996 through to May 2008 were revised to exclude all amounts salary sacrificed. For further information see Information Paper: Revisions to the Average Weekly Earnings Series, Aug 2008 (cat. no. 6302.0.55.001) released 11 November 2008.

44 Since the May 2011 edition of this publication, Average Weekly Cash Earnings (AWCE)

series have also been released as additional (not replacement) AWE series. The difference between the AWCE and the AWE series is the average weekly amount salary sacrificed. Data relating to the AWCE series are available in the data cubes on the Downloads tab at the top of this page. For more information relating to the AWCE series, refer to the Information Paper: Release of Average Weekly Cash Earnings Series, May 2011 (cat. no. 6302.0.55.003) and for broad level analysis and findings refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002).

COMPARABILITY OF SERIES

45 The current AWE series, based on information obtained from a sample survey of employers, was introduced in August 1981. Prior to September 1981, the AWE series was based principally on information from payroll tax returns. Revised estimates of AWE for the period August 1981 to November 1983 were included in Average Weekly Earnings, States and Australia, March 1984 (cat. no. 6302.0) published on 12 July 1984 and available on the ABS website. Users who need a measure of the movement in earnings for a period which spans both the payroll tax based and employer survey series should refer to Table 3 in that publication which presents both series linked to a common index base (August 1981 = 100.0).

CHANGES TO TIME SERIES SPREADSHEETS

46 From the May 2015 issue, all time series identifiers used in the Average Weekly Earnings spreadsheets (i.e. table 1 to 14H) changed, as highlighted in the Information Paper: Average Weekly Earnings, Australia: Upcoming Changes to Time Series Spreadsheets (cat. no. 6302.0.55.004), issued on 14 May 2015.

ESTIMATES OF MOVEMENT IN AWE

47 AWE is designed to provide estimates of the level of average earnings at a point in time and, while not designed for movements in earnings, the frequency of collection supports a time series of these level estimates. Data on the average level of earnings are useful for providing a level benchmark to compare a specific amount to an average level of earnings (for example, what an individual earns compared to the average).

48 As the primary purpose of AWE is to estimate the level of average earnings in Australia, the standard errors for the period-to-period movements are much higher proportionally than for the level estimates. Estimates of movement should be interpreted with this in mind. An alternative source for estimates of movements in the price of wages in Australia is the Wage Price Index, Australia (cat. no. 6345.0) (see paragraphs 49-54).

COMPARABILITY WITH WAGE PRICE INDEX

49 Period-to-period movements for the AWE series are not comparable with those for the Wage Price Index (WPI). It is important to recognise that the two series have different purposes and concepts and use different sample selection and estimation methodologies.

50 The AWE survey is designed to measure the level of average earnings in Australia at a point in time. It does this by obtaining data from selected businesses on the total earnings paid to their employees and the total number of employees in the business, for a specific pay period. Together, this data is used to derive the mean, or average, earnings. These sample data are then weighted to provide estimates for the whole population of in scope businesses.

51 The WPI is a price index designed to measure the change over time in the price of wages

and salaries. It does this by pricing specific jobs, in terms of wage and salary payments to employees occupying the jobs, and collecting information from businesses each quarter on price changes in those jobs. It is unaffected by changes in the quality and quantity of labour services purchased by employers.

52 In addition to changes in the price of labour, AWE estimates are affected by changes in hours worked and by compositional changes in the employee workforce (see paragraphs 34 and 35). The WPI prices a fixed quantum of labour services for each job, and hence changes to base earnings resulting from increases in hours worked or from changes in the composition of the employee workforce will not be reflected in the index.

53 For further information on comparability between AWE and WPI, please refer to the feature article Average Weekly Earnings and Wage Price Index - What do they measure? published in the May 2014 AWE release.

54 For further information on the WPI, please refer to the Explanatory Notes of Wage Price Index, Australia (cat. no. 6345.0) and Wage Price Index: Concepts, Sources and Methods, 2012 (cat. no. 6351.0.55.001) which are available on the ABS web site.

ALTERNATIVE ABS EARNINGS DATA

55 Information about wages and salaries paid to employees is used for many purposes including economic analysis, social research, policy formation and evaluation, and research by employer and employee associations. In addition to AWE, the ABS publishes a variety of other information on wages and salaries (generally referred to as 'earnings'), from both household and employer surveys. For further information on these other sources, please refer to the feature article Understanding Earnings in Australia Using ABS Statistics published in Employee Earnings, Benefits and Trade Union Membership, Australia, August 2013 (cat. no. 6310.0).

EFFECTS OF ROUNDING

56 Estimates of average weekly earnings are rounded to the nearest 10 cents.

57 Estimates of percentage change have been calculated using unrounded estimates and may be different from, but are more accurate than, movements obtained from calculating percentage changes using the rounded estimates presented in this publication.

SEASONAL ADJUSTMENT

58 Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular series. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variation. If a time series has no identifiable seasonality it is not seasonally adjusted.

59 In 2012, as part of the transition from a quarterly to a biannual frequency, the ABS conducted an assessment of seasonality in the biannual AWE series. Based on the information available at the time, it was determined that moving to a biannual frequency eliminated seasonality for most AWE series and for these series the seasonally adjusted estimate was exactly equal to the original estimate. A 2014 review into the seasonality of biannual AWE series showed that some seasonality is now present in series that previously did not display seasonality. For these series, seasonal factors are now applied. Other series that were assessed as seasonal are no longer displaying seasonality. For these series the seasonally adjusted estimate will now equal the

original estimate. These changes are applied to the entire published series (i.e. commencing with May 2012).

60 The biannual seasonally adjusted series, commencing November 2012, uses the ABS's existing quarterly seasonal adjustment method. Linear interpolation is used to impute "missing" quarterly original observations based on the succeeding and preceding survey estimates. In this way a quarterly original data series is synthesised from the actual biannual data collected. These synthesised estimates are used in the seasonal adjustment process and are not released. The concurrent seasonal adjustment technique is used to estimate seasonal factors from this quarterly synthesised original data.

61 Under concurrent seasonal adjustment, the estimates of seasonal factors are improved as new or revised original estimates become available each period. However, for this collection, the seasonally adjusted estimates up to May 2012, presented in the May 2012 edition, will not be revised as they were based on actual quarterly observations, whereas those after that point are based on biannual observations.

TREND ESTIMATES

62 Seasonally adjusted estimates can be smoothed to reduce the impact of irregular or non-seasonal influences. Smoothed seasonally adjusted series are called trend estimates.

63 The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

64 The trend estimates in this publication, obtained by dampening out the irregular component from the seasonally adjusted series, are calculated using a centred 7-term Henderson moving average of the seasonally adjusted estimates of quarterly synthesised original data. Estimates for the two most recent periods cannot be calculated using this centred average method; instead an asymmetric average is used. This can lead to revisions in the trend estimates for the last two observations when data become available for later periods. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors. If a series is highly volatile then the trend estimates will be subject to greater revision for the latest few observations as new data become available. However, it is important to note that this does not make the trend series inferior to the seasonally adjusted or original series.

65 Please note that calculating seasonally adjusted and trend estimates on the synthesised quarterly series has resulted in a slight change in the level of the data. When the new series were implemented, the change in the level of data was calculated against historic data. At the Australia level, the maximum differences for full-time adult male average weekly ordinary time earnings between estimates based on the two frequencies were \$4.20 in the trend series and \$4.60 in the seasonally adjusted series. Over the length of the series the mean differences were \$0.48 for the trend series and \$0.76 for the seasonally adjusted series.

66 Those users seeking historical seasonally adjusted and trend estimates will be required to access past AWE editions, which are available on the ABS website. It is advised that seasonally adjusted and trend estimates produced before and after the May 2012 edition are not directly comparable and these historical series before the May 2012 edition will not be produced from less frequent biannual observations.

67 The privatisation of Telstra Corporation in November 2006 impacted on the private sector and public sector AWE series. For the purposes of ABS statistics, this change from public sector to private sector was effective from March quarter 2007. The effect of this change was significant for both the private sector and public sector series. As a result, a trend break was applied to both series between November 2006 and February 2007. For more information please see

Information Paper: Future Treatment of Telstra in ABS Statistics, 2007 (cat. no. 8102.0), released 26 February 2007.

68 For further information, see A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0) or contact ABS Time Series Analysis section on (02) 6252 6345 or email time.series.analysis@abs.gov.au.

RELATED PUBLICATIONS

69 The following publications contain related information:

- Australian Labour Market Statistics (cat. no. 6105.0);
- Employee Earnings and Hours, Australia (cat. no. 6306.0) - issued biennially;
- Characteristics of Employment, Australia (cat. no. 6333.0);
- Employment and Earnings, Public Sector, Australia (cat. no. 6248.0.55.002) - issued annually;
- Estimates of Personal Income for Small Areas (cat. no 6524.0.55.002);
- Gender Indicators, Australia (cat. no. 4125.0) - issued biannually;
- Labour Force, Australia (cat. no. 6202.0) - issued monthly;
- Wage Price Index, Australia (cat. no. 6345.0) - issued quarterly; and
- Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

Glossary

GLOSSARY

Adult employees

Adult employees are those employees 21 years of age or over and those employees who, although under 21 years of age, are paid at the full adult rate for their occupation.

Average weekly cash earnings

Average weekly cash earnings represents average gross (before tax) earnings of employees, inclusive of salary sacrifice. Average weekly cash earnings differs from average weekly earnings by the average weekly amount salary sacrificed.

Average weekly earnings

Average weekly earnings statistics represent average gross (before tax) earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of number of employees.

Employees

Employees refer to all wage and salary earners (as defined in paragraphs 4 and 5 of the Explanatory Notes) who received pay for any part of the reference period.

Full-time employees

Full-time employees are permanent, temporary and casual employees who normally work the

agreed or award hours for a full-time employee in their occupation and received pay for any part of the reference period. If agreed or award hours do not apply, employees are regarded as full-time if they ordinarily work 35 hours or more per week.

Reference period

The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter. Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

Salary Sacrifice

Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of their pre-tax salary in return for benefits. Common types of salary sacrifice arrangements include pre-tax contributions to superannuation funds and novated leases for motor vehicles.

Sector

Public sector includes all local government authorities and government departments, agencies and authorities created by, or reporting to the Commonwealth and State parliaments. All remaining employees are classified as private sector.

Weekly ordinary time earnings

Weekly ordinary time earnings refers to one week's earnings of employees for the reference period, attributable to award, standard or agreed hours of work. It is calculated before taxation and any other deductions (e.g. superannuation, board and lodging) have been made. Included in ordinary time earnings are award, workplace and enterprise bargaining payments, and other agreed base rates of pay, over-award and over-agreed payments, penalty payments, shift and other allowances, commissions and retainers, bonuses and similar payments related to the reference period, payments under incentive or piecework, payments under profit sharing schemes normally paid each pay period, payment for leave taken during the reference period, all workers' compensation payments made through the payroll, and salary payments made to directors. Excluded are amounts salary sacrificed, non-cash components of salary packages, overtime payments, reimbursements to employees for travel, entertainment, meals and other expenditure incurred in conducting the business of their employer, and other payments not related to the reference period.

Weekly total earnings

Weekly total earnings of employees is equal to weekly ordinary time earnings plus weekly overtime earnings.

Abbreviations

ABBREVIATIONS

ABN	Australian Business Number
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
ANZSIC	Australian and New Zealand Standard Industrial Classification
ATO	Australian Taxation Office
AWCE	Average Weekly Cash Earnings

AWE	Average Weekly Earnings
EG	Enterprise Group
LE	Legal Entity
PAYGW	Pay-As-You-Go Withholding
SISCA	Standard Institutional Sector Classification of Australia
TAU	Type of Activity Unit
TOBE	Type of Business Entity
TOLO	Type of Legal Organisation
WPI	Wage Price Index

Sampling Error (Technical Note)

TECHNICAL NOTE SAMPLING ERROR

RELIABILITY OF ESTIMATES

1 As the estimates in this publication are based on information relating to a sample of employers, rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all employers. This difference, called **sampling error**, should not be confused with inaccuracy that may occur because of imperfections in reporting by respondents or in processing by the ABS. Such inaccuracy is referred to as **non-sampling error** and may occur in any enumeration whether it be a full count or a sample. Efforts have been made to reduce non-sampling error by careful design of questionnaires, detailed checking of returns and quality control of processing.

2 The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the **standard error** which indicates the degree to which an estimate may vary from the value which would have been obtained from a full enumeration (the 'true value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors. Standard errors are provided in tables 3,6,9,10 and 13 to 17.

3 An example of the use of a standard error is as follows. If the estimated average earnings were \$1,100.00 with a standard error of \$7.00, then there would be about two chances in three that a full enumeration would have given an estimate in the range \$1,093.00 to \$1,107.00 and about nineteen chances in twenty that it would be in the range \$1,086.00 to \$1,114.00.

4 Another measure of the sampling error is the **relative standard error**, which is obtained by expressing the standard error as a percentage of the estimate.

Quality Declaration

QUALITY DECLARATION - SUMMARY

INSTITUTIONAL ENVIRONMENT

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and

mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The biannual Survey of Average Weekly Earnings (AWE) is designed to produce estimates of the level of average gross weekly earnings associated with employee jobs in Australia, at a point in time. While AWE is not designed for movement in earnings, the frequency of collection supports a time series of these level estimates. In practice, AWE is used for estimates of both the level of earnings and movement in earnings; level estimates and estimates of movement in AWE are linked to both state and federal legislation for adjusting a variety of government payments. AWE data are also used for analysing average earnings, framing and supporting wage claims/submissions, monitoring wage equity and developing taxation and social policies.

The key earnings series produced from the survey are:

- full-time adult ordinary time earnings (commonly referred to as AWOTE);
- full-time adult total earnings;
- all employees total earnings.

Each of the above series is available for males, females and persons. Estimates are available by state/territory, industry and sector. Seasonally adjusted, where there is observed seasonality, and trend estimates are produced for key series. Cash series estimates, which are inclusive of amounts salary sacrificed, are also available.

TIMELINESS

AWE is produced for the June and December quarters. The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter (i.e. May and November). Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

Up until May 2012, Average Weekly Earnings was conducted on a quarterly basis. The frequency of the AWE survey was changed to biannual with effect from the 2012/13 financial year. The May 2012 publication was the last quarterly issue and the November 2012 the first produced on a biannual basis.

AWE estimates are released approximately 13 weeks after the reference date for the May edition and 14 weeks after the reference date for the November edition due to the Christmas and New Year period.

ACCURACY

Information for the AWE survey is collected via web form questionnaires which are distributed to approximately 5,700 employers. The population of employers is stratified by state, sector, industry division and employment size to ensure adequate state, sector and industry representation. The target minimum response rate is 96% for the survey as a whole and 90% for each state, sector and industry.

There are two principal sources of error in surveys: sampling error and non-sampling error. Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise non-sampling error by the careful design and testing of questionnaires, detailed checking of the reported data and direct follow up with providers where significant errors are detected.

Sampling error occurs when a sample or subset of the population is surveyed rather than the entire population. One measure of the likely difference resulting from not including all of the population in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the whole population had been included in the survey.

As the primary purpose of AWE is to estimate the level of average earnings in Australia, the standard errors for period-to-period movements are much higher proportionally than for level estimates. Estimates of movement should be interpreted with this in mind.

AWE estimates are seasonally adjusted to remove the estimated effects of normal seasonal variation from the series. The seasonally adjusted series are further smoothed to reduce the impact of irregular or non-seasonal factors. Smoothed seasonally adjusted series are called trend estimates. As data becomes available for the next period there are usually revisions in the seasonally adjusted and trend estimates for the previous periods.

The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

COHERENCE

The current AWE series, based on information obtained from a sample survey of employers, was introduced in August 1981. Prior to August 1981 the AWE series was based primarily on information from payroll tax returns.

Data collection methodology has been improved over time, including survey definitions and sample design. Seasonally adjusted estimates were introduced in 1983 and trend estimates were introduced in 1993.

The AWE survey uses Australian standard classifications to facilitate data comparability across statistical series. From the August 2009 issue of the AWE publication, data is presented using the 2006 edition of the Australian and New Zealand Standard Industrial Classification (ANZSIC). The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

Industry data from August 2009 is only available on an ANZSIC 2006 basis. Published industry series were backcast and data from August 1994 to May 2009 are available on the ABS website on the basis of both the 2006 edition and the previous 1993 edition of ANZSIC.

The ABS conducts a number of sample surveys of businesses which collect information about wages and salaries. One of these, the Wage Price Index, is designed to measure the change over time in the price of wages and salaries. Period-to-period movements for the AWE series are not comparable with those for the Wage Price Index as the two series have different purposes and concepts and use different sample selection and estimation methodologies. For further information on comparability between AWE and WPI, refer to the feature article *Average Weekly Earnings and Wage Price Index - What do they measure?* published in the May 2014 AWE issue.

INTERPRETABILITY

Average weekly earnings statistics represent average gross earnings of employees and do not

relate to average award rates nor to the earnings of the 'average person'. Changes in the averages may be affected not only by changes in the level of earnings of employees, but also by changes in the overall composition of the wage and salary earner segment of the labour force.

There are several factors which can contribute to compositional changes, including variations over time in the proportions of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; variations in the distribution of employment between industries; and variations in the proportion of male and female employees. Such effects may apply differently within different states and territories, and over time.

AWE statistics closely follow the International Labour Organisation's concept of 'Statistics of average earnings'. The data is collected in respect of a typical week and, therefore, may not reflect events such as Christmas trading. Further, the data excludes irregular and infrequent payments, such as annual bonuses. For these reasons, caution is advised if using AWE to derive annualised average earnings.

For further information on understanding Average Weekly Earnings statistics, please refer to the feature article *A Guide to Understanding Average Weekly Earnings Statistics*, published in the November 2014 release.

Average Weekly Earnings, Australia (cat. no. 6302.0) contains Explanatory Notes, a Glossary and a Technical Note which provide further information about data sources, terminology and other technical aspects of the series.

ACCESSIBILITY

Average Weekly Earnings, Australia (cat. no. 6302.0) is available electronically from the ABS website and includes downloadable Excel data files for time series data.